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## Processing of Nominal Compounds and Gender-marked Determiners in Aphasia: Evidence from German

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German has three classes of grammatical gender: masculine, feminine, and neuter, all overtly marked on their corresponding determiners *der*, *die*, and *das*. Since the gender of complex nouns, such as *birdhouse*, is determined by the morphological head (house in birdhouse), the modifier's gender (bird in birdhouse) is irrelevant. Furthermore, for compounds single-lemma representations are assumed that include gender information (for production: Levelt et al., 1999; for comprehension: Taft, 2003). Nevertheless, gender effects have been reported for the modifier of compound nouns (Köster et al., 2004). The underlying functional source of such effects is not clear yet.

### Method

In a case-series design, production and comprehension of determiner-compound noun phrases is examined in German participants with agrammatic aphasia, to test theories about the representation of compounds with a specific focus on gender.

The same materials are used in assessments of production (spoken picture naming, repetition while adding the determiner), and comprehension (determiner-decision task), consisting of compounds (N=80), simple nouns (N=80), and pseudocompounds (N=40), which are non-existing noun-noun combinations. All target words were controlled for linguistic factors such as full-form and morpheme frequency, semantic transparency and gender of the underlying morphemes, as well as name agreement for the target pictures.

### Results & Discussion

Two individuals with agrammatic aphasia have participated to date, a third participant is currently tested.

Both participants were impaired in retrieving gender-marked determiners in production tasks (picture naming and repetition while adding the determiner) (cf. Fig. 1). In contrast, their comprehension, assessed in a determiner-decision task with existing compounds, was very good; they were unimpaired or only mildly impaired (cf. Fig. 1). However, MM was severely impaired with pseudocompounds (just above chance), whereas for GS no difference between compounds and pseudocompounds was observable in the determiner-decision task (cf. Fig. 1).

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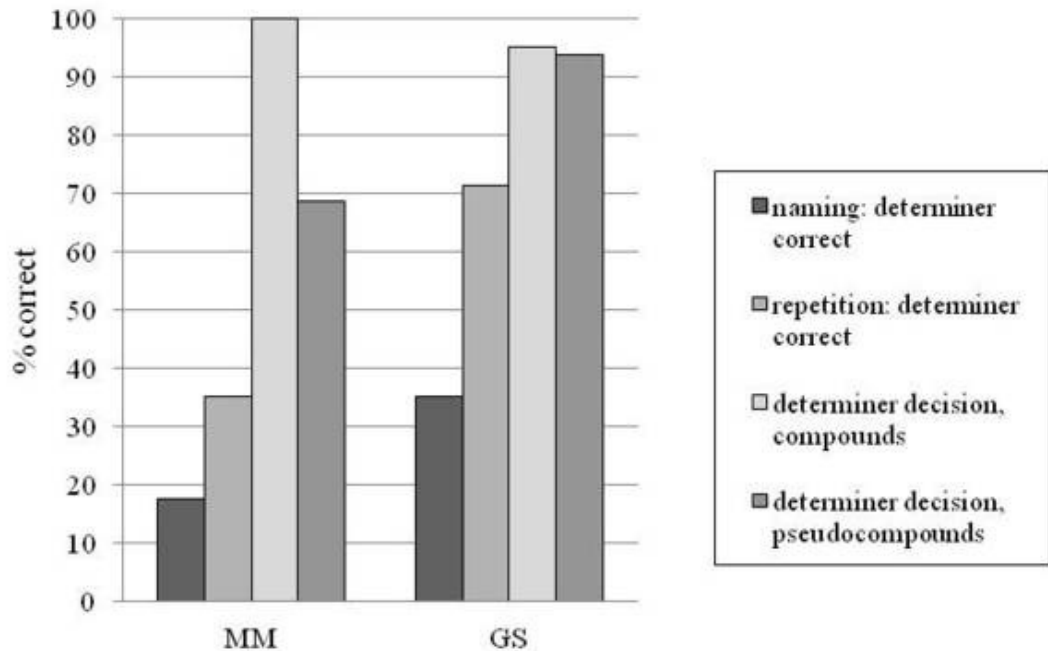


Fig.1: Production and comprehension of determiner-compound noun phrases, preliminary results

Both participants thus showed a dissociation between impaired determiner retrieval in production and better-preserved gender and determiner processing in comprehension. Therefore, gender retrieval from a single-lemma representation, shared between comprehension and production, seems to be intact for both participants, whereas retrieval of the determiner from the output word-form level seems to be functionally impaired. MM's dissociation between compounds and pseudocompounds in the determiner-decision task further supports the assumption that lexicalized compounds are represented by a single-lemma representation.

## References

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